CLAIMS

1. (Currently Amended) A sentence classification device ~~characterized by~~ comprising:

a term list having a plurality of terms each comprising not less than one word;

a DT matrix generation module for generating a DT matrix two-dimensionally expressing a relationship between each document contained in a document set and said each term;

a DT matrix transformation module for generating a transformed DT matrix having clusters having blocks of associated documents by transforming the DT matrix obtained by said DT matrix generation module on the basis of a DM decomposition method used in a graph theory;

a classification generation module for generating classifications associated with the document set on the basis of a relationship between each cluster on the transformed DT matrix obtained by said DT matrix transformation module and said each document classified according to the clusters, wherein the classification generation module comprises a virtual representative document generation module for generating a virtual representative document, for each cluster on a transformed DT matrix, from a term of each document belonging to the cluster;

a large classification generation module for generating a large classification of documents from each document in a bottom-up manner by repeatedly performing, at each DT matrix transformation, said DM decomposition method used to hierarchically cluster~~ing~~ documents by ~~processing of~~ setting ~~a~~ said DT matrix generated by said DT matrix generation module in an initial state, causing said virtual representative document generation module to generate a virtual representative document for each cluster on a transformed DT matrix generated from the DT matrix by said DT matrix transformation module, generating a new DT matrix used for next hierarchical clustering processing by adding the virtual representative document to the transformed DT matrix and deleting documents belonging to the cluster of the virtual representative document from the transformed DT matrix, and outputting, for said each cluster, information associated with the documents constituting the cluster as large classification data;

a term list edition module for adding or deleting an arbitrary term with respect to the term list; and

an index generation module for making said DT matrix generation module generate DT matrices by using term lists before and after edition by said term list edition module, and generating and outputting an index indicating validity of the edition from the DT matrices.

2. (Canceled)

3. (Previously Presented) A sentence classification device according to claim 1, characterized by further comprising label generation module for outputting each term strongly connected to each document belonging to said arbitrary cluster as a label indicating a classification of the cluster.

4. (Previously Presented) A sentence classification device according to claim 1, characterized by further comprising document organization module for sequentially outputting documents belonging to said arbitrary cluster or all documents in an arrangement order of the documents in the transformed DT matrix.

5. (Previously Presented) A sentence classification device according to claim 1, characterized by further comprising summary generation module for outputting, as a summary of said arbitrary document, a sentence of sentences constituting the document which contains a term strongly connected to the document.

6. – 7. (Canceled)

8. (Previously Presented) A sentence classification device according to claim 1, characterized in that said large classification generation module terminates repetition of the clustering processing when no cluster is obtained from the transformed DT matrix in the clustering processing.

9. (Previously Presented) A sentence classification device according to claim 1, characterized by further comprising large classification label generation module for, if a virtual representative document is contained in a given cluster of clusters obtained by the clustering

processing, generating a label of the cluster on which the virtual representative document is based from a term strongly connected to the virtual representative document.

10. (Currently Amended) A sentence classification method ~~characterized by~~ comprising:

~~the~~ a DT matrix generation step of generating a DT matrix two-dimensionally expressing a relationship between each document contained in a document set and each term of a term list having a plurality of terms each comprising not less than one word;

~~the~~ a DT matrix transformation step of generating a transformed DT matrix having clusters having blocks of associated documents by transforming the DT matrix on the basis of a DM decomposition method used in a graph theory;

~~the~~ a classification generation step of generating classifications associated with the document set on the basis of a relationship between each cluster on the transformed DT matrix and said each document classified according to the clusters, wherein the classification generation step comprises the virtual representative document generation step of generating a virtual representative document, for each cluster on a transformed DT matrix, from a term of each document belonging to the cluster;

~~the~~ a large classification generation step of generating a large classification of documents from each document in a bottom-up manner by repeatedly performing, at each DT matrix transformation, said DM decomposition method used to hierarchically cluster~~ing~~ documents by ~~processing comprising the step of~~ setting ~~a~~ said DT matrix generated in ~~the~~ said DT matrix generation step in an initial state, generating a virtual representative document in the virtual representative document generation step for each cluster on a transformed DT matrix generated from the DT matrix in the DT matrix transformation step, the step of generating a new DT matrix used for next hierarchical clustering processing by adding the virtual representative document to the transformed DT matrix and deleting documents belonging to the cluster of the virtual representative document from the transformed DT matrix, and the step of outputting, for said each cluster, information associated with the documents constituting the cluster as large classification data; and

adding or deleting an arbitrary term with respect to the term list; and the step of generating DT matrices by using term lists before and after edition, and generating and outputting an index indicating validity of the edition from the DT matrices.

11. (Canceled)

12. (Previously Presented) A sentence classification method according to claim 10, characterized by further comprising the step of outputting each term strongly connected to each document belonging to said arbitrary cluster as a label indicating a classification of the cluster.

13. (Previously Presented) A sentence classification method according to claim 10, characterized by further comprising the step of sequentially outputting documents belonging to said arbitrary cluster or all documents in an arrangement order of the documents in the transformed DT matrix.

14. (Previously Presented) A sentence classification method according to claim 10, characterized by further comprising the step of outputting, as a summary of a document, a sentence of sentences constituting said arbitrary document which contains a term strongly connected to the document.

15. – 16. (Canceled)

17. (Previously Presented) A sentence classification method according to claim 10, characterized in that in the large classification generation step, repetition of the clustering processing is terminated when no cluster is obtained from the transformed DT matrix in the clustering processing.

18. (Previously Presented) A sentence classification method according to claim 10, characterized by further comprising the large classification label generation step of, if a virtual representative document is contained in a given cluster of clusters obtained by the clustering

processing, generating a label of the cluster on which the virtual representative document is based from a term strongly connected to the virtual representative document.